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OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Continue
Electric Integrated Resource Planning and
Related Procurement Processes.

R.20-05-003

**REDWOOD COAST ENERGY AUTHORITY'S
COMMENTS ON THE
PROPOSED DECISION ADOPTING 2021 PREFERRED SYSTEM PLAN**

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SYSTEM PLAN**

The Redwood Coast Energy Authority (RCEA) submits these Comments in response to the *Proposed Decision* (PD), dated December 22, 2021. Specifically, these Comments address Attachment A of the PD, *Modeling Assumptions for the 2022-2023 Transmission Planning Process CPUC Staff Report* (Staff Report). Following discussion with Energy Division staff, RCEA asks that the offshore wind (OSW) capacity in the Humboldt area which RCEA showed in its 2020 Integrated Resource Plan (IRP) portfolios be remapped as Energy-Only Deliverability Status (EODS) instead of Full Capacity Deliverability Status (FCDS) in the mapping analysis supporting the Staff Report. Based on developer interest RCEA has seen to date, an initial OSW project in the Humboldt Wind Energy Area (WEA) is commercially viable without FCDS. RCEA also emphasizes that the Humboldt WEA has the potential to host between an estimated 1.6 and 1.8 gigawatts (GW) of capacity for which future transmission upgrades and/or new transmission capacity will be necessary. Accordingly, the Commission in collaboration with CAISO should plan for future transmission upgrades to ensure full deliverability of the OSW resource in the Humboldt WEA.

I. INTRODUCTION

In 2017, RCEA¹ began exploring how to develop the Northern California OSW resource to deliver locally produced clean energy to Humboldt County. As a first step, RCEA initiated outreach and stakeholder engagement within the community that consisted of one-on-one meetings with various stakeholder groups. In early 2018, RCEA released a competitive request for qualifications (RFQ) for an experienced development team to enter a public-private partnership and pursue the development of a commercial scale wind farm off the Humboldt County coast. From this process, RCEA selected a consortium of developers that have since formed Redwood Coast Offshore Wind (ROW). ROW is a joint venture of Ocean Winds, a subsidiary of EDP Renewables, and Aker Offshore Wind, in partnership with RCEA. In late 2018, ROW submitted an unsolicited lease request to the Bureau of Ocean Energy Management (BOEM) for a portion of what eventually became BOEM's Humboldt Call Area and later was designated as the Humboldt WEA.

In 2021, President Biden made climate change mitigation a central priority of his administration and declared the intent to achieve a 100% clean electric system by 2035, accompanying this announcement with an executive order directing federal departments and agencies to prioritize OSW. In May 2021, the President and Governor Newsom announced a plan to move forward with leasing for an initial 4.6 GW of OSW in Morro Bay and Humboldt.

¹ RCEA is a local government Joint Powers Agency founded in 2003 whose members include the County of Humboldt, the Cities of Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Dell, and Trinidad, and the Humboldt Bay Municipal Water District. The purpose of RCEA is to develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient and renewable resources available in the region for the benefit of the Member agencies and their constituents.

Given the robust response to its RFQ and stakeholder engagement to date, RCEA is confident that development of an initial 100-150 MW project within the Humboldt WEA will be successful, despite that transmission constraints may necessitate EODS. Humboldt County is marked by strong collaboration among its local energy, environmental, and economic professionals and possesses natural features that make it a steppingstone for the OSW energy industry on the West Coast of the US. With average wind speeds of more than ten meters per second, the wind resource off the Humboldt County coast is the best in California and is comparable with some of the best performing OSW sites in Europe. Additionally, the Port of Humboldt Bay is a deep draft port facility with upland infrastructure that is slated to be revitalized and upgraded for staging OSW equipment.

This confidence is underscored by previous developer interest in Humboldt County's onshore wind resource. In 2019, RCEA shortlisted the Humboldt Wind project from Terra-Gen, despite that the project would have had EODS. This project did not come to fruition due to community opposition and tribal concern, resulting in the County denying the project a conditional use permit. The experience with Terra-Gen, while ultimately unsuccessful, does nonetheless demonstrate developers' willingness to invest in large-scale energy-only projects on the North Coast. As mentioned above, RCEA has committed to extensive community engagement, with numerous stakeholders including fishermen and tribes, to ensure this project is aligned with community interest.

With the development of Humboldt area's OSW resource, and OSW projects in other regions such as Morro Bay, California is poised to become a key player in a growing global industry at the intersection of innovation, manufacturing, and clean energy. Most importantly,

OSW presents a huge potential to create local jobs, advance towards a carbon-free electric system, and address climate change.

II. RCEA SUPPORTS THE REMAPPING OF THE INITIAL PROJECT IN THE HUMBOLDT WEA AS AN ENERGY-ONLY RESOURCE

BOEM has designated the entirety of the Humboldt Call Area as a WEA. As detailed in BOEM’s memorandum documenting the analysis and rationale in support of the recommended WEA designation, the Humboldt WEA has the potential to host between an estimated 1.6 and 1.8 GW of OSW capacity. ROW has asked BOEM to identify multiple lease areas within the WEA to advance an initial project sized to the regional electric system’s current constraints while also creating a pathway to scale up the capacity in the future. Multiple areas will provide the optionality needed to tailor the project in a way that suits the existing transmission infrastructure while also enabling scale to deliver additional projects in the longer term. Eventually developing the full WEA would maximize the value of Humboldt’s OSW resource to address the climate crisis and support local economic development.

ROW is planning for an initial Energy-Only project that is 100-150 MW, from which a portion of the resource offtake is reflected in RCEA’s 2020 IRP. Although RCEA estimated a 2026 COD in its IRP, 2028 is the soonest that RCEA currently anticipates an OSW project could be operational. The Staff Report does not include this initial project in its final busbar mapping results (see Figure 1 of the Staff Report). According to the Staff Report, OSW in the Humboldt area was excluded from the map due to constraints in the RESOLVE model, specifically as it relates to the “amount of available transmission in Humboldt” and “lack of information on the cost and timing of additional upgrades at Humboldt.” RCEA would like to remind the Commission that the Schatz Energy Research Center (SERC), in collaboration with BOEM, has

completed numerous studies analyzing the potential costs and transmission needs of Humboldt area OSW development. One such study is the *Interconnection Constraints and Pathways* report in 2020². This study provides fairly extensive information regarding the cost and timing of additional upgrades for OSW development of the Humboldt area. This study provides foundational knowledge, but the authors note that the 1,836 MW transmission alternatives (Figure 1) were developed from a conceptual planning study and recommend additional evaluation to further assess the feasibility.

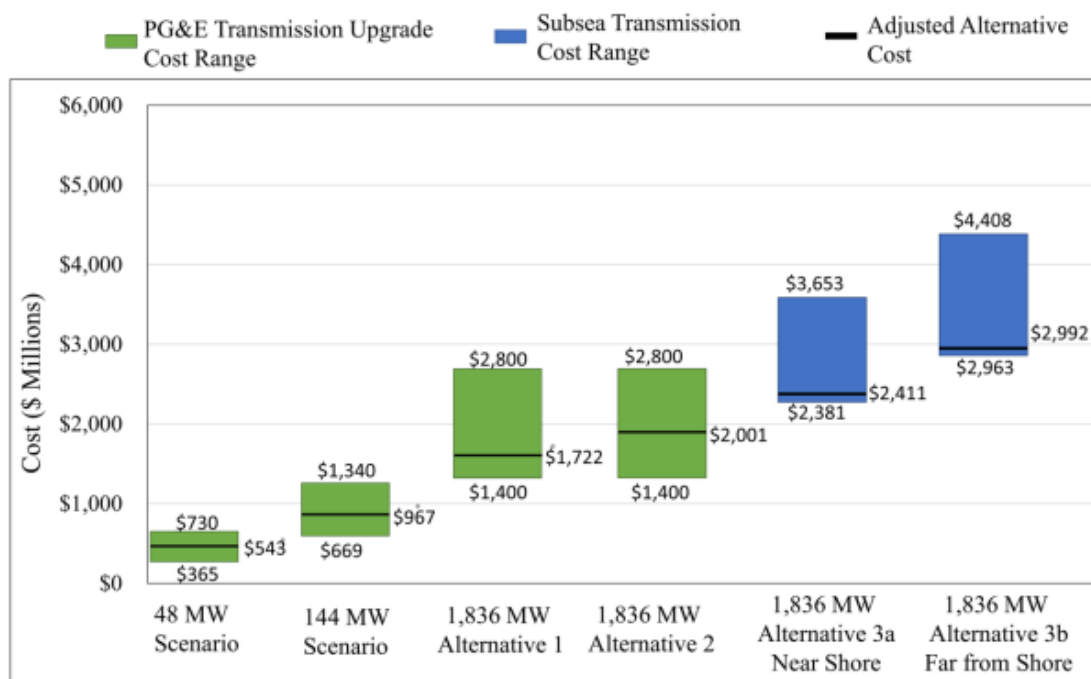


Figure 1 Transmission upgrade costs for different offshore wind scenarios showing the range of costs from PG&E study (colored bar), with adjusted value estimated (line).

² This report was prepared and published by the Schatz Energy Research Center in September 2020. The full series, which features other interconnection and transmission upgrade studies, is available online at schatzcenter.org/wind/

With this context in mind, RCEA encourages the Commission to include the initial project as an Energy-Only resource to ensure there is no disconnect between the CPUC and CAISO planning processes.

III. RCEA ASKS THE COMMISSION AND CAISO TO PLAN FOR FUTURE TRANSMISSION UPGRADES IN THE HUMBOLDT AREA TO ACCOMMODATE FUTURE DEVELOPMENT TO MEET STATE RENEWABLE ENERGY AND ECONOMIC DEVELOPMENT GOALS

CAISO's transmission planning process (TPP) is intended to serve as a unified transmission infrastructure plan for the entire CAISO balancing area and is the keystone of transmission planning and a precursor to the construction of most transmission infrastructure. A new TPP cycle begins every year and has a planning horizon of 10 years. While ROW intend to engage in the TPP on an ongoing basis, it is prudent for the CPUC and CAISO to anticipate future transmission upgrades—especially if California is to meet federal and state renewable energy goals.

Despite that ROW is anticipating an initial OSW project with EODS, future transmission upgrades and/or buildout should be planned to unlock the full benefits of the OSW resource, including a deliverability allocation and Resource Adequacy. To accommodate the development of the 1.6 to 1.8 GW of OSW in the Humboldt area, new transmission capacity will need to be constructed. SERC's *Interconnection Constraints and Pathways* report, which draws from PG&E's *Interconnection Feasibility Study Report*³, analyzed the transmission upgrade needs for various OSW development scales including a pilot scale of 48 MW, a small commercial scale of 144 MW, and a large commercial scale of 1,836 MW, and assumes FCDS at each scale.

³ This report was prepared by the Pacific Gas and Electric Company and published by the Schatz Energy Research Center in September 2020. The series is available online at schatzcenter.org/wind/

Transmission upgrade options studied included overland transmission for the pilot and small commercial scenarios, and subsea cable connection for the large commercial scale scenario. Each scale necessitates different transmission infrastructure upgrades, as summarized in Table 1 below^{1,2}.

Project Scale	Upgrades Needed
Pilot Scale (48 MW), Overland Transmission	Construct a parallel 115-kV transmission line connecting the Humboldt Bay, Humboldt, Trinity, and Cottonwood Substations, plus construction of a 115- kV transmission line connecting the Bridgeville and Garberville Substations
Small Commercial Scale (144 MW), Overland Transmission	Construct the same new transmission lines needed for the Pilot Scale, plus additional reconductoring of the existing 115-V transmission line going east to the Trinity Substation and reconductoring the existing 115- kV and 60-kV transmission lines going south to the Willits Substation.
Large Commercial Scale (1,836 MW), Overland Transmission	<p>Alternative 1: Build a 500-kV transmission line connecting Humboldt to Round Mountain, new 500-kV transmission would need to be constructed from the Round Mountain to the Table Mountain and then Vaca-Dixon Substations in parallel with existing lines.</p> <p>Alternative 2: Add new transmission infrastructure between Vaca-Dixon and the East Bay Area to deliver power to the substations that serve larger loads, including the Pittsburg Power Plant and Tesla Substations and construction of a new 230/500 kV substation in Collinsville, CA.</p>
Large Commercial Scale (1,836 MW), Subsea Cable	A subsea transmission cable to the SF Bay Area would connect at a central location and distribute power to three separate transmission sub-regions because no single region in the SF Bay Area can absorb an additional 1,836 MW of capacity. From a generic central node (location not identified), power would spread to the Potrero Substation, Los Esteros Substation, and the East Short Substation. To control the power flow to each sub-region, PG&E recommends installing phase shifters or using DC-transmission lines between the central converter station to the sub-regional substations.

Table 1. Summary of transmission upgrades needed for various alternatives, as described in the Interconnection Feasibility Study Report and the Interconnection Constraints and Pathways report.

These transmission upgrade cases at various project scales, while not necessary for initial project development, should be assessed and planned for by the CPUC and CAISO in future IRP and TPP cycles, to ensure eventual deliverability of the Humboldt OSW resource.

IV. CONCLUSION

In conclusion, RCEA encourages the Commission to include the initial project as an Energy-Only resource to ensure there is no disconnect between the CPUC and CAISO planning processes and asks the Commission and CAISO to plan for future transmission upgrades in the Humboldt area to accommodate future development to meet state renewable energy and economic development goals

RCEA respectfully requests consideration of the comments specified herein and looks forward to an ongoing dialogue with the Commission and stakeholders.

Respectfully submitted,

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